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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,207	12/01/2003	Werner M.A. Grootaert	58209US004	4690
32692	7590	08/25/2005	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			ASINOVSKY, OLGA	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/725,207

Applicant(s)

GROOTAERT ET AL.

Examiner

Olga Asinovsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 6-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 6-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

The cancellation of claims 3-5 is noted.

Applicants amend claims 1 and 13 to specify a nitrogen-containing cure site selected from an amidine group, a salt thereof, and combinations thereof.

The new search has been made in light of this amendment.

The rejection of claims 1-10, 12-14 under 35 USC 102(b) as being anticipated by EP 0829 494=patent family to US Patent 5,780,552 to Kerbow is withdrawn since reference does not disclose amidine group for a nitrogen-containing cure site monomer.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 6-11, 13-21, 23-31 and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grootaert et al U.S. Patent 6,887,927 or Grootaert et al U.S. Patent 6,846,880.

Grootaert' 927 discloses a fluoropolymer composition comprising a fluoropolymer derived from a fluorinated monomer and a nitrogen-containing cure site monomer. The nitrogen-containing cure site monomers include nitrile, imidate, amidine, amide, imide,

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and amine-oxide groups, column 6, lines 10-13, for the present claims 1 and 13. The fluoropolymers are composed of units of tetrafluoroethylene and at least one perfluoroalkyl vinyl ether, column 3, lines 33-47 and column 5, lines 5-8, for the present claims 1, 6-9, "One or more other fluoropolymers may be blended with the fluoropolymer having interpolymerized units derived from a nitrogen-containing cure site monomer," column 5, lines 14-16. The fluoropolymers may include fluoroelastomer gums, column 3, lines 46-47, for the present claims 15 and 33. Another suitable cure site component includes fluorinated monomer containing a halogen such as bromine or iodine, column 6, lines 26-31. The chain transfer agents can be present during the polymer preparation, column 6, lines 26-65. The curable fluoropolymer composition containing a nitrile cure site monomer may also be combined with other curable fluoropolymer lacking nitrile cure sites, column 16, lines 15-17 and column 12, lines 1-2. The fluoropolymer prepared by emulsion polymerization technique for producing latex, column 18, lines 10-24. Two fluoropolymer latexes can be blended, coagulated, washed and dried, column 18, lines 10-24. It is well known that the emulsion polymerization of latex is producing a latex having fine particle size, for the present claims 14 and 34. The fluoropolymer compositions are useful in production of articles, column 17, lines 22-23.

The difference between the present claims 1,13 and Grootaert' 927 is that reference discloses a variety of a nitrogen-containing cure site monomers that work within the same expectation to introduce functionalities. It would have been obvious to one of ordinary skill in the art to select an amidine group and/or salt thereof from the nitrogen-

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containing cure site monomers as specified in the present claims 1 and 13 because the selection of the specified interpolymerizing unit derived from a nitrogen-containing cure site monomer is depending on the desired curing process, thermal stability and utility of using the resulting fluoropolymer composition, column 3, lines 7-27, column 5, lines 44-47 and column 16, lines 53-61 in Grootaert'927.

Grootaert' 880 discloses fluoropolymer composition comprising a fluoropolymer having interpolymerized units derived from a nitrogen-containing cure site monomer and an amidine-containing curative, column 1, lines 39-50. The amidine-containing curative is readable in applicant' claims, column 2, line 16 through column 5, line 33. The fluoropolymers include interpolymerized units derived from a nitrogen-containing monomer and, preferably, at least two principal monomers including tetrafluoroethylene and perfluoroalkoxy vinyl ethers, column 5, lines 34-44 and column 6, lines 25-50. The fluoropolymers can be prepared by using an aqueous emulsion polymerization process for producing the fluoropolymer latices, column 7, lines 7-11. The composition can include perfluoroelastomers, column 5, line 56. The nitrogen-containing groups useful in the cure site monomers include amidine, column 7, lines 27-33. The amidine-containing curative is used to crosslink the fluoropolymer, column 8, lines 25-26.

The difference between the present claims and Grootaert'880 is that reference discloses an addition amidine-containing curative.

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It would have been obvious to one of ordinary skill in the art to use fluoropolymer composition in Grootaert'880 wherein an amidine-containing curative could be present in the instant invention since the amidine-containing curative is a benefit to control the thermal stability, chemical stability and may provide economic benefits, column 6, lines 56-67 and since said curative is used to crosslink the fluoropolymer, that is expected in the present invention.

3. Claims 12, 22 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grootaert et al U.S. Patent 6,887,927 or Grootaert et al U.S. Patent 6,846,880 as applied to claims 1-2, 6-11, 13-21, 23-31 and 33-37 above, and further in view of Chen et al U.S. Patent 6,310,141.

Grootaert' 927 and Grootaert' 880 do not disclose a core/shell structure for a fluoroplastic for the present claims 12, 22 and 32.

Chen discloses a blend of a fluoroelastomer (a) and fluoroplastic (b) produced in the form of separate latices, column 2, lines 48-62. The core-shell polymers may be prepared in a number of ways, including polymerization to form a core and shell having different compositions, or by seed polymerization, column 3, lines 37-40. A fluoroplastic is polymerized first and a fluoroelastomer forms a continuous phase polymerization, such that the resulting polymer has a core/shell structure, column 1, lines 61-67, column 2, lines 1-7, column 3, lines 18-22, 36-39.

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It would have been obvious to one of ordinary skill in the art to use process conditions disclosed in Chen' 141 invention for making a core-shell structure for fluoroplastic/fluoroelastomer blend composition in Grootaert' 927 or Grootaert' 880 because each of the primary reference discloses a blend of two latices: Grootaert' 927 at column 3, lines 46-47; column 5, lines 57-60; column 15, lines 28-31 and 66; column 16, lines 15-16; and Grootaert' 880 at column 5, lines 43 and 56; column 6, lines 34-44; column 7, lines 9-12.

### ***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*O.A.*  
August 19, 2005

Olga Asinovsky  
Examiner  
Art Unit 1711

  
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